

Canyon Creek Bridge No. 924
Chicago and North Western Railway
Milepost 592.12
Casper Vicinity
Natrona County
Wyoming

HAER No. WY-84

HAER
WYO
13-CASP.V
2-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
Rocky Mountain System Support Office
National Park Service
P.O. Box 25287
Denver, Colorado 80225-0287

HISTORIC AMERICAN ENGINEERING RECORD
CANYON CREEK BRIDGE NO. 924
CHICAGO AND NORTH WESTERN RAILWAY

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I. INTRODUCTION

Location: T33N-R78W, Section 10, NE/NE/SW/NE/SW
Milepost 592.12
Casper Vicinity
Natrona County
Wyoming

USGS Quad: Brookhurst, Wyoming 7.5'

UTMS: 13/402560 mE/4743640 mN

Dates of
Construction: 1923

Present Owner: Union Pacific Railroad Company

Present Use: Railroad bridge

Significance: This bridge is a feature associated with the Chicago and North Western Railway, a National Register eligible linear district. The bridge possesses significant engineering attributes, including a concrete slab deck floor, and was designed to accommodate a curve in the roadbed.

Project
Statement: The Union Pacific Railroad Company proposes to abandon the Casper Branch (Milepost 590.0 to 607.8), formerly the Chicago and North Western Railway. Component materials, including this bridge, will probably be razed and salvaged. The approved mitigation plan for this National Register eligible property consists of Historic American Engineering Record (HAER) recordation.

Historian: Robert Rosenberg
Rosenberg Historical Consultants
739 Crow Creek Road
Cheyenne, Wyoming 82009

November 1998

II. HISTORY: CHICAGO AND NORTH WESTERN RAILWAY

The North Platte River Valley in eastcentral Wyoming Territory was one of three prime routes considered for the building of the first transcontinental railroad. It had already served as the route for thousands of emigrants bound for California, Oregon, and Utah on the Oregon Trail since the 1840s. However, a more southerly route was selected by Chief Engineer Grenville Dodge because it was somewhat shorter and also passed through areas of known coal deposits. The Union Pacific Railroad was built through Wyoming Territory along this southerly route in 1867-1868, and in 1869 it was joined with the Central Pacific Railroad, which had been built eastward from California. As a result, population growth and economic development in the territory initially occurred along the Union Pacific mainline. Northeastern Wyoming Territory and the North Platte River Valley were linked to rail service only via a system of rough, slow north-south wagon roads, and economic and political development of that region languished.

The completion of the railroad did serve to spur the establishment of the cattle industry south of the North Platte River. Then, after the Treaty of 1876 removed the Native Americans from northeastern Wyoming Territory, cattlemen expanded their operations north of the North Platte River to the vast grasslands of the Powder River Basin. However, the region remained only sparsely settled well into the 1880s, with a small number of large far-flung open range cattle operations spread across this portion of the territory.

Numerous railroads had transcontinental ambitions in the 1870s and 1880s and gradually expanded westward across the Great Plains. The Chicago and North Western Railway Company was organized on June 7, 1859, in Illinois and Wisconsin, with William Butler Ogden as President. As the name implied, the early goals of this railroad were to expand from Chicago to the north and to the west. Through mergers and acquisitions, the Chicago and North Western was successful in building west to Council Bluffs, Iowa, by 1867, thus securing the lucrative contract for hauling the majority of supplies for the building of the Union Pacific Railroad. With the assistance of John I. Blair, an independent railroad speculator who acquired strategically located but weaker railroad lines, the Chicago and North Western was able to gradually expand westward across Iowa and Nebraska to Wyoming Territory.¹

The Chicago and North Western Railway, like many of its competitors during the pioneering days of railroading, realized that western expansion was imperative to inhibit other railroads from building into and effectively controlling new regions. From 1881 to 1887, the number of miles of railroad track in operation in the United States nearly doubled. The Chicago and North Western envisioned a

transcontinental route connected to existing western lines, such as the Oregon Pacific or the Central Pacific. As a result, competing railroads built through long stretches of generally unsettled land, luring emigrants and creating towns along the line to make their operations profitable.

Joining the frenzy of westward expansion, the Fremont, Elkhorn, and Missouri Valley Railway (owned by John I. Blair and leased by him to Chicago and North Western) laid track across central Nebraska in the 1870s. After gold was discovered in the Black Hills and the strikes proved of lasting significance, the Fremont, Elkhorn, and Missouri Valley Railway built into the region in 1886. That same year, the Wyoming Central Railway, a subsidiary of the Fremont, Elkhorn, and Missouri Valley Railway (and therefore another subsidiary of the Chicago and North Western), was organized in Wyoming Territory. The Wyoming Central Railway was organized because under territorial laws, it was illegal for a corporation to own or build a railroad in Wyoming unless it had been organized in the territory. The subsidiary was established in order to "extend its railroad westward along the valley of the North Platte and Sweetwater through the counties of Albany, Carbon, Sweetwater, and Uinta, and thence to the eastern boundary of Utah Territory..."² The railway also claimed that it would build a branch line north to Montana Territory. Railroad officials stated that the new line would be built west to connect with the Central Pacific Railroad at Corinne, Utah, to create a transcontinental route to the Pacific.³

The new line branched off from the existing line at Chadron, Nebraska, and ran seventy-seven miles west to the site of Douglas, Wyoming. The tracks reached Wyoming Territory in late June 1886. Other new towns were created along the line as grading and track laying continued. Lusk, Wyoming, and Crawford, Nebraska, were officially laid out by the railroad in July. Tracks were laid at the rate of about two miles per day, with the grading crews well ahead of the track-laying crews. The tracks reached the new Lusk townsite on July 17, 1886, and daily trains began running from Chadron to Lusk.

Track-laying crews pushed on rapidly toward Douglas. Railroad officials decided to make Douglas the end of track for that year and laid out the town in June 1886 ahead of the arrival of the tracks. Meanwhile, a temporary tent town grew up at the mouth of Antelope Creek in anticipation of the railroad's arrival. Residents of the tent town and those at the site of old Fort Fetterman moved to the new site when Douglas was officially opened.⁴ In addition to the towns of Lusk and Douglas, several stations were located along the line through what would become Niobrara and Converse counties, including Van Tassell, Node, Manville, Keeline, Shawnee, Lost Springs, Orin, and Irvine.

The Chicago and North Western, the force behind railroad expansion into Wyoming, continued to extend its lines westward along the North Platte River Valley, the most favorable route from an engineering standpoint as well as for future settlement and exploitation of the region along the mainline. In 1887, the Wyoming Central laid track westward from Douglas up the North Platte River Valley for a distance of twenty-nine miles to Deer Creek, and the new town of Glenrock was established. The following year, an additional 24.7 miles of track reached the site of Casper. Between Casper and Glenrock, the stations of Parkerton, Big Muddy, Pearson, Strouds, and Evansville were eventually created. Parkerton and Big Muddy were associated with the Big Muddy Oil Field established in 1916. Strouds was named after Joshua Strouds, an early homesteader who settled there in 1884. Evansville was established in 1922 as a company town for the Texas Company's oil refinery and was named for another early homesteader, W.T. Evans.⁵

In June 1888, the Chicago and North Western reached Casper, which had evolved from ferry crossing and frontier military post on the Oregon Trail. In 1847 the Mormons erected a commercial ferry and later a toll bridge to transport the emigrants and their wagons across the North Platte River. It also became the site of a stage stop, a Pony Express station, and a telegraph station along the major transcontinental link. In 1858, the military established Platte Bridge Station, later known as Fort Caspar, a two-company post established to protect the Oregon Trail. Following the Plains Indian Wars of the late 1860s and early 1870s and the negotiation of the Treaty of 1876, the region was opened to non-Indian settlement.

However, it was not until the arrival of the railroad that the town of Casper was created. A temporary "tent town" had been established, but the railroad's Pioneer Townsite Company surveyed and platted the official townsite in the fall of 1888, just west of the tent town. The site was located on land owned by J.M. Carey and Brother, a large pioneer cattle outfit. Alternate town lots were owned by the railroad and the Careys and were offered at private sale.⁶ The ranching-oriented town grew slowly at first, and the census counted only 544 people in 1890 and 883 by 1900. Natrona County was formed from a portion of Carbon County in 1888 and grew from a population of 1094 to 1785 during the 1890s.⁷

Meanwhile the Chicago and North Western was undergoing a change in leadership; in June 1887, Marvin Hughitt became the president of the railway. Hughitt was the Chicago and North Western's counterpart to James J. Hill (Northern Pacific) and Collis P. Huntington (Southern Pacific). He served as its president from 1887 to 1910, during which time he operated a "one-man road." From 1910 to 1925, he continued to serve as Chairman of the Board and thus effectively retained control of the railroad for a period of thirty-eight years.⁸

Hughitt entered the presidency at a critical time for the railroads. First, the Interstate Commerce Act of 1887 established "just and reasonable" rates for interstate rail carriers. Although this law ultimately proved difficult to enforce, the initial reaction of the railroads was pessimistic, and expansion programs were modified or postponed.⁹ Coupled with the Financial Panic of 1893, this caused the Chicago and North Western to curtail track expansion in Wyoming until the early twentieth century. The sentiments of President Hughitt at this time are summed up by his statement to "...stick to our knitting, [and] develop this railroad in its present territory."¹⁰

The Fremont, Elkhorn, and Missouri Valley Railway and its subsidiary, the Wyoming Central, "leased lines" of the Chicago and North Western, were officially merged in 1902.¹¹ After a period of financial retrenchment, the Chicago and North Western expanded 148 miles west from Casper to Shoshoni and Riverton in 1905, taking advantage of the opening of 1,410,000 acres of the Wind River Indian Reservation to settlement. The line was extended to Lander in 1906. Further incentives for the track expansion were gold, copper, coal, and livestock in the region. The hugely inflated estimate of 200,000 people living on the new lands in the Wind River Valley was probably ample reason for the Chicago and North Western to build the extension. Later plans included a line extending to the vicinity of Yellowstone National Park via the Wind River and Dubois; however, this extension was never built.¹²

Commercial production of oil in the area in the 1910s and 1920s quickly changed the character of the Casper community and Natrona County. The great Salt Creek Oil Field, located about fifty miles north of Casper, was extensively developed after 1910. Casper was strategically located as the nearest railhead to the field, and it became the major oil shipping point. Refineries and tank farms were built at Casper, and a system of pipelines was laid connecting them to the field. The Midwest Refining Company and Standard Oil Company of Indiana invested heavily in the field and assured a bright future for Salt Creek. As a result of these developments, the City of Casper experienced an oil boom that began in 1913-1914 and continued well into the next decade. Casper quickly grew from 1600 people in 1905 to 4040 within ten years.¹³ The major oil concerns established their headquarters in Casper, providing employment and injecting capital into the local economy. The population multiplied, and prosperity accelerated construction and community expansion. Casper experienced the typical western boom cycle of unprecedented growth followed by inevitable decline.

The Big Muddy Oil Field was discovered in 1916 on the south bank of the North Platte River about sixteen miles east of Casper and contributed to the region's oil boom. The Mutual Oil Company built a refinery on the west edge of Glenrock in 1917 to process the Big

Muddy oil. Mutual's interests in the field and refinery were acquired by the Continental Oil Company in the mid-1920s. The Midwest Refining Company (Standard Oil of Indiana) built a second refinery at Glenrock a short time later, and an oil pipeline was constructed to join the field to the refineries. Crude oil was stored in the Clayton tank farm, located on the north side of the North Platte River and operated by the Sinclair Pipe Line Company. Parkerton, established about five miles west of Glenrock in the Big Muddy Oil Field to house and serve the large work force, became a station on the Chicago and North Western line. Most of the oil in the field was piped east to the Continental and Standard Oil Refineries at Glenrock or to the refineries at Casper. The Big Muddy Oil Field became one of the ten largest fields in Wyoming. The railroad provided direct service to the refineries and oil field. As oil field production gradually declined, the Standard Refinery was shut down in the late 1940s, and the Continental Oil Refinery was closed in the mid-1950s.¹⁴

During this time period other railroads had continued their expansion into the region. Efficient transportation was essential to the settlement and economic development of the region. In 1913, the Chicago, Burlington, and Quincy Railroad (often referred to simply as the Burlington) built southward through Thermopolis and the Wind River Canyon and reached Casper from the west, paralleling a long stretch of the Chicago and North Western track. It continued eastward through Glenrock and Douglas to Orin Junction, where it rejoined the Burlington network to the south, thus forming a north-south linkage of the railroad system. In 1943, the Chicago and North Western line west of Casper was abandoned and salvaged; those trains then utilized the Burlington line by means of a consolidation agreement.¹⁵

In the early 1980s, in a joint effort with the Burlington Northern Railroad, the portion of the Chicago and North Western line from Shawnee on the west to Crandell on the east was reconstructed as part of a larger coal railroad line project to serve the large strip mines in the Powder River Basin. The light traffic that this portion of the line had been receiving for many years was replaced by heavy coal traffic.¹⁶ The portion of the old Chicago and North Western line west from Orin to Sean Cohee was abandoned in about 1990.

The Chicago and North Western was merged with the Union Pacific in 1995, and the portion of the line now known as the Casper Branch begins on the east at Milepost 590.0, where the 1990 track abandonment ended. It continues west for a distance of 17.8 miles and ends at Milepost 607.8. The Union Pacific Railroad, the current owner, plans to abandon the line and salvage its component materials including the bridges. Certain portions of the line may be utilized for a "trail to rails" program for public use and interpretation, in which case the roadbed and some bridges would be preserved.

III. CONSTRUCTION OF CANYON CREEK BRIDGE NO. 924

Canyon Creek Bridge No. 924 is a railroad bridge constructed on the Chicago and North Western Railway line in 1923. It was designed and constructed using standard bridge plans adapted for the particular site and drafted by Chicago and North Western's Office of Engineer of Bridges, O.F. Dalstrom, Engineer of Bridges. This steel and concrete bridge over Canyon Creek replaced a 14-span timber pile trestle of similar proportions that was probably built when the railroad line was first constructed through the area in 1888.

Timber pile trestle bridges were commonly used by the railroads as they expanded cross the western United States, because they were durable as well as relatively cheap and easy to build compared to steel and concrete bridges. They are still numerous today, and there are six such bridges located on the Casper Branch. However, there are only two steel and concrete bridges located on the Casper Branch: the Canyon Creek Bridge and Bridge No. 1210, spanning the North Platte River between Casper and Mills.¹⁷

Local contemporary newspapers indicate that safety considerations caused not only the Chicago and North Western Railway but its local counterpart, the Chicago, Burlington and Quincy Railway, to replace some of their larger timber pile trestles with steel and concrete bridges starting in the 1920s. The replacement program coincided with several notable train accidents during this time period that began to erode the public's trust in the safety of railroad travel. The Chicago and North Western and the Burlington railways both maintained regular passenger service on their Wyoming lines at this time, so that such accidents did not just involve loss of freight and injury or death to small train crews but often to large numbers of paying customers. As a result, local newspaper editorials began to call for improvement of the rail lines.¹⁸

Indeed, one of the worst train wrecks in United States railroading history occurred on the Burlington line less than seven miles east of the Casper Branch. This line ran on the north or opposite side of the North Platte River from the Chicago and North Western. On September 27, 1923, cloud bursts washed out a number of timber pile trestle railroad bridges in the vicinity, including one over Cole Creek on the Burlington. As a result, a passenger train derailed and tumbled into the swollen stream. An estimated 30-40 lives were lost, and many of the bodies were swept into the larger North Platte River and never recovered.¹⁹

The bridge plans for the Canyon Creek Bridge are dated June-August 1923; therefore, replacement of the timber pile trestle was planned by Chicago and North Western prior to this particular

disaster. Nevertheless, timber pile trestle bridge failure throughout the 1910s and 1920s appears to have been the prime motivation in the overall bridge replacement program that began during this time period.

The Canyon Creek Bridge is a steel and concrete bridge that required a substantial monetary investment by Chicago and North Western as well as considerable engineering expertise. It is also unique on the Casper Branch because, unlike its longer steel and concrete counterpart (Bridge No. 1210 spanning the North Platte River between Casper and Mills), this bridge has a concrete slab deck resting on the steel truss deck plate girders. Secondly, the individual steel truss deck plate girders are canted end-to-end to accommodate a gentle south curve in the tracks. Therefore, although standard bridge plans were used by Chicago and North Western to design the Canyon Creek Bridge, they were modified for the particular location. The fact that the bridge remains in operation today essentially as built after seventy-five years of continuous service attests to its engineering and construction attributes.

IV. PHYSICAL DESCRIPTION

Canyon Creek Bridge No. 924 is located at Milepost 592.12 of the Union Pacific, Casper Branch (formerly Chicago and North Western Railway), about 2.9 miles east of Strouds, Natrona County, Wyoming. It is currently owned and maintained by the Union Pacific Railway Company.

It is a steel truss deck plate girder bridge that is 146'4" long between the backwalls of the concrete abutments. The concrete deck of the bridge is 15' wide, and the bridge is a maximum of 36' high. The basic bridge components consist of one 65' by 7'1/4" high steel deck plate girder that is situated in the center of the bridge and two supporting vertical reinforced concrete piers. The remainder of the bridge consists of two 40' steel truss deck plate girders, one on each end of the 65' girder. Each is supported by one concrete pier and a concrete abutment. All of the steel truss deck plate girders are 7'7" wide. The two 40' girders are 4'6" high. The deck of the bridge consists of twenty-nine reinforced concrete slabs, each measuring 5' x 15' x 2'3"; eight slabs are laid across each 40' steel girder, and thirteen slabs are laid across the 65' girder. The deck was then covered with ballast and a single set of rails resting on wooden crossties. One of the most interesting features is that the bridge was built to accommodate a gentle southward curve in the tracks. This was accomplished by canting the two 40' girders in relationship to the central 65' girder. Thus, the two concrete support piers were situated slightly south of the two concrete abutments. The final alignment was 1 degree for each 50 feet of curve.²⁰

The current condition of the bridge is that the concrete deck and concrete surfaces are eroded and have been patched and resurfaced with a sealer. Otherwise, the bridge appears to be in its original physical condition without modification.

V. ENDNOTES

1. Robert J. Casey and W.A.S. Douglas, *Pioneer Railroad, The Story of the Chicago and North Western System* (New York: McGraw-Hill Book Company, 1948), p. 126.
2. *The Democratic Leader*, Cheyenne, Wyoming, 20 March 1886.
3. *The Democratic Leader*, Cheyenne, Wyoming, 13 June 1886.
4. *The Democratic Leader*, Cheyenne, Wyoming, 19 January, 24 March, 11 May, 16 June, 17 July, 24 July, 13 August 1886.
5. Douglas Kullen, *Historical Background Study for the Orin to Sean Cohee Railroad Line Abandonment, Converse and Natrona Counties, Wyoming* (Glen Ellyn, Illinois: Patrick Engineering, Inc.; report prepared for Chicago & North Western Transportation Company, Chicago, Illinois, 1990) pp. 14-15.
6. Alfred James Mokler, *History of Natrona County, Wyoming, 1888-1922* (Chicago, Illinois: R.R. Donnelley & Sons Company, 1923), pp. 47, 116.
7. Office of the Secretary of State of Wyoming, *The Census of the State of Wyoming, 1915*.
8. Casey and Douglas, *Pioneer Railroad*, pp. 137-138.
9. Richard C. Overton, *Burlington Route: A History of the Burlington Lines* (New York: Alfred A. Knopf, 1965) pp. 204-214.
10. E.M. Lewis, *Chicago and North Western RY. and the Projected West Coast Extension, 1904-1906* (MSS #914, typed manuscript dated 1964; Wyoming State Archives, Cheyenne, WYO.), p. 4.
11. Casey and Douglas, *Pioneer Railroad*, p. 224.
12. E.M. Lewis, *Chicago and North Western RY.*, p. 5.
13. *Census of the State of Wyoming, 1915*.
14. Paul Biggs and Ralph H. Espach, "Petroleum and Natural Gas Fields in Wyoming," *United States Department of the Interior Bureau of Mines Bulletin No. 582* (Washington, D.C.: U.S. Government Printing Office,

1960), pp. 29, 32; Ralph H. Espach and H. Dale Nichols, "Petroleum and Natural-Gas Fields of Wyoming," U.S. Department of the Interior Bureau of Mines Bulletin No. 418 (Washington, D.C.: U.S. Government Printing Office, 1941), pp. 14-15; D.W. Greenburg, "Converse County's Magnificent Resources" *Midwest Review* 7 (August 1926) No. 8, pp. 50-52; Wyoming Pioneer Association, *Pages from Converse County's Past* (Casper, Wyoming: Wyoming Historical Press, 1986), pp. 689-692.

15. Kullen, *Historical Background Study*, p. 2; T.A. Larson, *History of Wyoming* (Lincoln: University of Nebraska Press, 1978), pp. 340, 483.

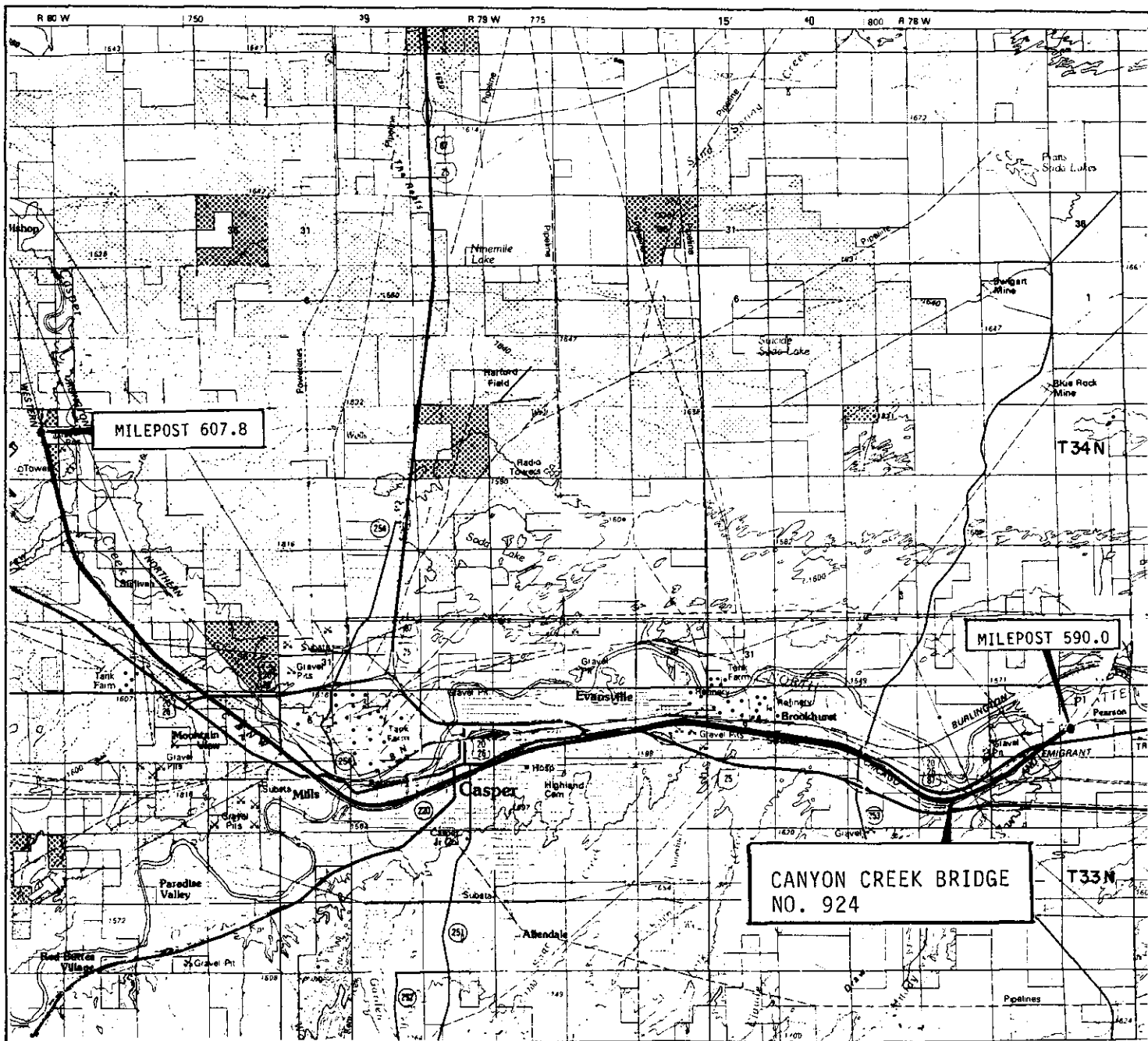
16. Idem; Letter dated April 14, 1980, from William E. Loftus, Associate Administrator for Federal Assistance, Department of Transportation, Washington, D.C., to Jan L. Wilson, Director, Wyoming Recreation Commission, Cheyenne, Wyoming.

17. Robert G. Rosenberg, *Class III Cultural Resource Survey Union Pacific Railroad Company - Casper Branch, Milepost 590.0 to 607.8, Natrona County, Wyoming* (Report prepared for the Union Pacific Railroad Company, Omaha, Nebraska, and on file at Wyoming SHPO, Cheyenne, WY., June 1998), pp. 9, 19.

18. *Inland Oil Index*, Casper, Wyoming, 20 October 1923.

19. *Ibid.*, 27 September 1923.

20. Office of Engineer of Bridges, C.&N.W.Ry., Wyoming Div., Br.#924, 2.9 Miles East of Strouds, WYO. Drawing No. 14946, Substructure; Drawing No. 14924, Reinforced Concrete Slabs; Drawing No. 14883, Superstructure.



Map showing the location of Canyon Creek Bridge No. 924, located at Milepost 592.12 on the Union Pacific Railroad, Casper Branch (formerly Chicago and North Western).